Complete Summary

GUIDELINE TITLE

Immunologic considerations in HIV-infected children.

BIBLIOGRAPHIC SOURCE(S)

New York State Department of Health. Immunologic considerations in HIV-infected children. New York (NY): New York State Department of Health; 2003 Mar. 20 p. [5 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Human immunodeficiency virus infection
- Immune defects
- Vaccine-preventable diseases:
  - Hepatitis B
  - Diphtheria
  - Tetanus
  - Pertussis
  - Polio
  - Measles
  - Mumps
  - Rubella
  - Haemophilus influenzae type B infections
  - Hepatitis A
  - Pneumococcal infections

- Influenza
- Varicella (chickenpox)

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Prevention
Screening
Treatment

CLINICAL SPECIALTY

Allergy and Immunology
Family Practice
Hematology
Infectious Diseases
Pediatrics
Preventive Medicine

INTENDED USERS

Health Care Providers
Physician Assistants
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

To develop guidelines on the laboratory evaluation and management of immune defects in human immunodeficiency virus (HIV)-infected pediatric patients, including the use of antiretroviral and immune-based therapies

TARGET POPULATION

Human immunodeficiency virus (HIV)-infected children

INTERVENTIONS AND PRACTICES CONSIDERED

1. Antiretroviral therapy
2. Routine immunization of human immunodeficiency virus (HIV)-infected children with the following vaccines:
    - Hepatitis B
    - Diphtheria, tetanus, acellular pertussis
    - Inactivated polio
    - Measles, mumps, rubella
    - Haemophilus influenzae type B
    - Hepatitis A
    - Pneumococcal, polysaccharide, and conjugate
    - Influenza

- Varicella

3. Laboratory evaluations with quantitative assessment of the cellular immune system, including lymphocyte immunophenotyping, to determine absolute numbers and percentages of CD4 and CD8 T lymphocyte subsets

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The Human Immunodeficiency Virus (HIV) Guidelines Program works directly with committees composed of HIV Specialists to develop clinical practice guidelines. These specialists represent different disciplines associated with HIV care, including infectious diseases, family medicine, obstetrics and gynecology, among others. Generally, committees meet in person 3 to 4 times per year, and otherwise conduct business through monthly conference calls.

Committees meet to determine priorities of content, review literature, and weigh evidence for a given topic. These discussions are followed by careful deliberation to craft recommendations that can guide HIV primary care practitioners in the delivery of HIV care. Decision making occurs by consensus. When sufficient evidence is unavailable to support a specific recommendation that addresses an important component of HIV care, the group relies on their collective best practice experience to develop the final statement. The text is then drafted by one member, reviewed and modified by the committee, edited by medical writers, and then submitted for peer review.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Antiretroviral Therapy and The Immune System

For specific clinical recommendations, the clinician should refer to Chapter 4: Pediatric Antiretroviral Therapy.

Immunization of Human Immunodeficiency Virus (HIV)-Infected Children

Immunizations to prevent infections should be used when available and safe (see Table 1 below and in the original guideline document).

Immunologic Laboratory Evaluation of HIV-Infected Children

A baseline evaluation should be completed and should include quantitative assessment of the cellular immune system, including lymphocyte immunophenotyping, to determine absolute numbers and percentages of CD4 and CD8 T lymphocyte subsets.

Lymphocyte subsets should be obtained at baseline (preferably in replicate), and 1 to 2 months after initiation of a new antiretroviral (ARV) regimen as a measure of response to treatment. They should subsequently be repeated every 3 to 4 months to make sure immune function is being maintained, or more frequently in children with clinical deterioration or rapid decline in CD4 count.

Table 1: Routine Immunization for HIV-Infected Children

Vaccine: Use and Precautions

- Hepatitis B: YES
- Diphtheria, tetanus, acellular pertussis: YES
- Inactivated polio: YES; do not use oral polio vaccine; inactivated vaccine for household contacts
- Measles, mumps, rubella: YES except in severely immunocompromised children [i.e., children in CD4 Immunologic Category 3 (see Table 2 below)]
- Haemophilus influenzae type B: YES
- Hepatitis A: CONSIDER, especially in children with hepatitis B and C and other liver dysfunction, and in travelers
- Pneumococcal, polysaccharide, and conjugate: YES
- Influenza: YES
- Varicella: YES, ONLY to children who are asymptomatic and in CD4 Immunologic Category 1 (see Table 2 below); OFFER to uninfected, nonimmune household contacts

Table 2. Immunologic Categories for HIV-Infected Children Based on Age-Specific CD4 T-Lymphocyte Counts and Percentage of Total Lymphocytes

Immunologic category

No evidence of suppression

Age and cells/mm^3 (%)*

- <12 months: •1,500 (>25)
- 1-5 years: •1,000 (>25)
- 6-12 years: •500 (>25)

Evidence of moderate suppression

Age and cells/mm^3 (%)*

- <12 months: 750-1,499 (15-24)
- 1-5 years: 500-999 (15-24)
- 6-12 years: 200-499 (15-24)

Severe suppression

Age and cells/mm^3 (%)*

- <12 months: <750 (<15)
- 1-5 years: <500 (<15)
- 6-12 years: <200 (<15)

* Percentage of total lymphocytes.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is not stated.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate evaluation and management of immune defects in HIV-infected children

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Following the development and dissemination of guidelines, the next crucial steps are adoption and implementation. Once practitioners become familiar with the content of guidelines, they can then consider how to change the ways in which they take care of their patients. This may involve changing systems that are part of the office or clinic in which they practice. Changes may be implemented rapidly, especially when clear outcomes have been demonstrated to result from the new practice such as prescribing new medication regimens. In other cases, such as diagnostic screening, or oral health delivery, however, barriers emerge which prevent effective implementation. Strategies to promote implementation, such as through quality of care monitoring or dissemination of best practices, are listed and illustrated in the companion document to the original guideline (HIV clinical practice guidelines, New York State Department of Health; 2003), which portrays New York's HIV Guidelines Program. The general implementation strategy is outlined below.

- Statement of purpose and goal to encourage adoption and implementation of guidelines into clinical practice by target audience
- Define target audience (providers, consumers, support service providers)
    - Are there groups within this audience that need to be identified and approached with different strategies (e.g., HIV Specialists, family practitioners, minority providers, professional groups, rural-based providers)?
- Define implementation methods
    - What are the best methods to reach these specific groups (e.g., performance measurement consumer materials, media, conferences)?
- Determine appropriate implementation processes
    - What steps need to be taken to make these activities happen?
    - What necessary processes are internal to the organization (e.g., coordination with colleagues, monitoring of activities)?
    - What necessary processes are external to the organization (e.g., meetings with external groups, conferences)?
    - Are there opinion leaders that can be identified from the target audience that can champion the topic and influence opinion?
- Monitor progress
    - What is the flow of activities associated with the implementation process and which can be tracked to monitor the process?
- Evaluate
    - Did the processes and strategies work? Were the guidelines implemented?
    - What could be improved in future endeavors?

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

New York State Department of Health. Immunologic considerations in HIV-infected children. New York (NY): New York State Department of Health; 2003 Mar. 20 p. [5 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003 Mar

GUIDELINE DEVELOPER(S)

New York State Department of Health - State/Local Government Agency [U.S.]

SOURCE(S) OF FUNDING

New York State Department of Health

GUIDELINE COMMITTEE

Committee for the Care of Children and Adolescents with HIV Infection

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the New York State Department of Health AIDS Institute Web site.

Print copies: Available from Office of the Medical Director, AIDS Institute, New York State Department of Health, 5 Penn Plaza, New York, NY 10001; Telephone: (212) 268-6108

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Immunologic considerations in HIV-infected children. Tables and recommendations. New York (NY): New York State Department of Health; 2003 Mar. 9 p.
- HIV clinical practice guidelines. New York (NY): New York State Department of Health; 2003. 36 p.

Electronic copies: Available from the New York State Department of Health AIDS Institute Web site.

Print copies: Available from Office of the Medical Director, AIDS Institute, New York State Department of Health, 5 Penn Plaza, New York, NY 10001; Telephone: (212) 268-6108

PATIENT RESOURCES

None available

NGC STATUS

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